SUPPLEMENTARY DATA

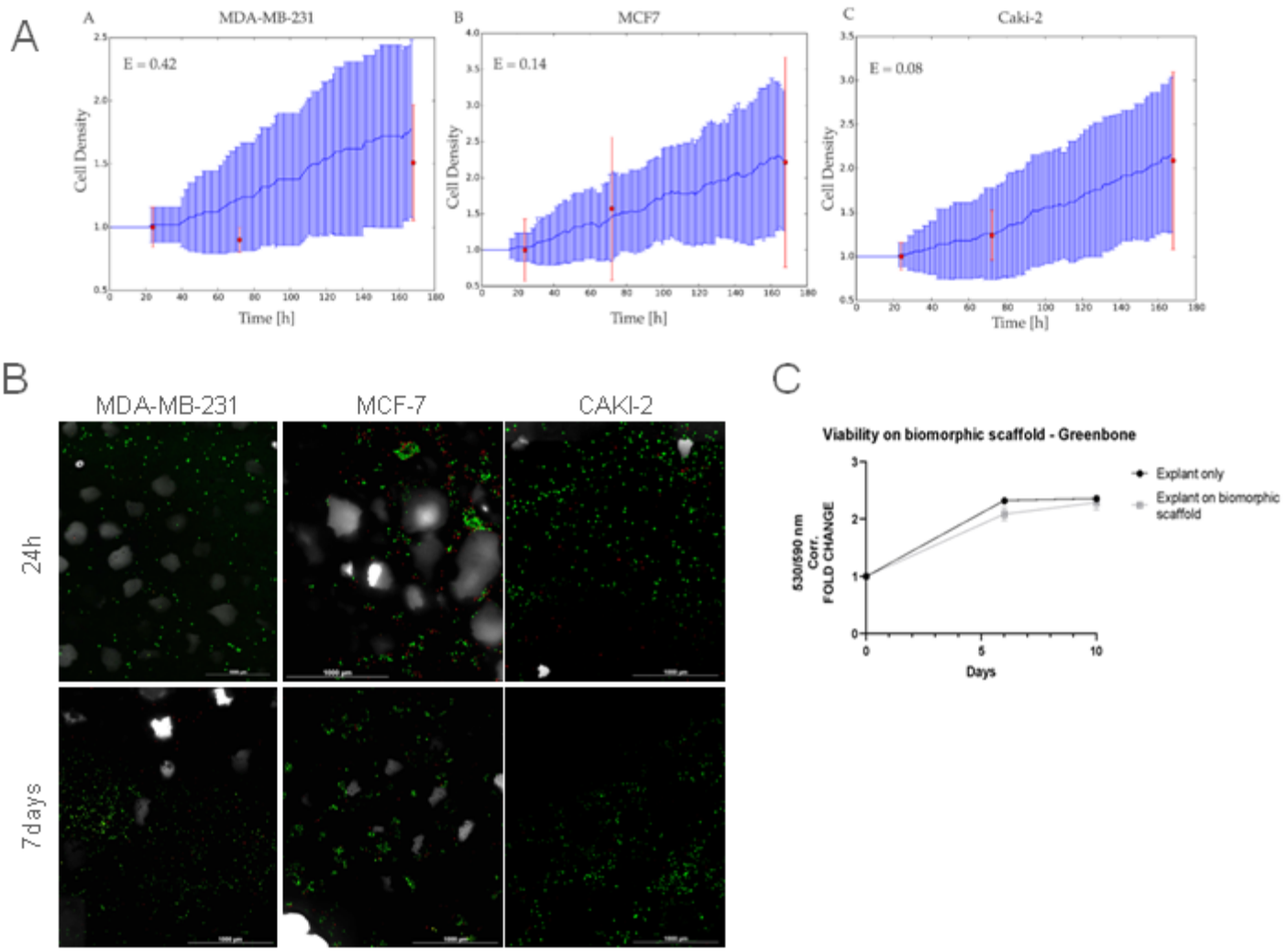

Fig. S1. Crystal violet staining to evaluate the most suitable seeding density among three different cell densities 25,000, 50,000 and 100,000 cells evaluated at 1h, 4 days and 11 days after seeding.

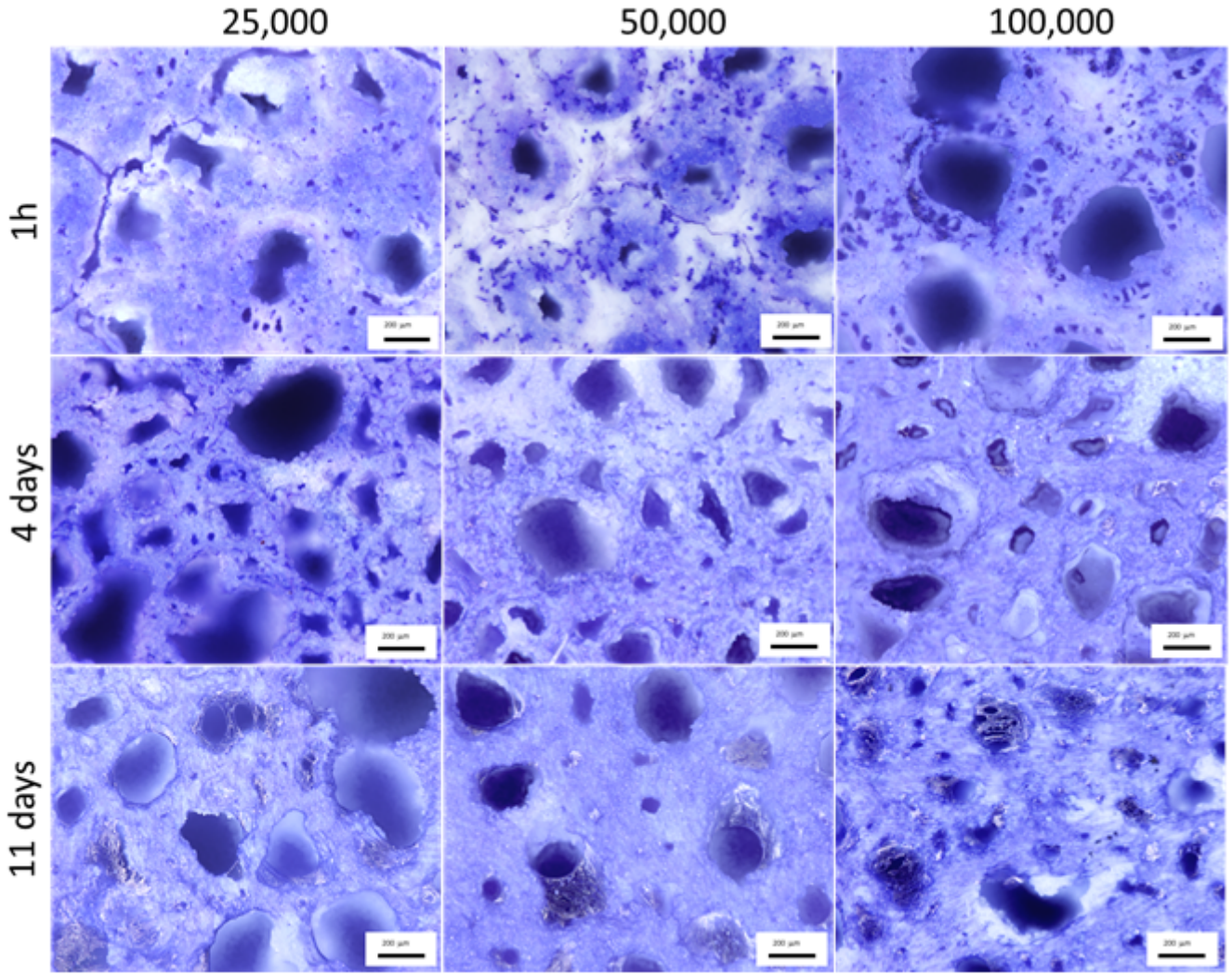

Fig. S2. Biocompatibility of biomorphic scaffolds. (A) Simulated growth curves (continuous lines), obtained using the best parameter set for each cell line, and their comparison with the experimental results (red dots) obtained in comparable *in vitro* conditions. (B) Live/Dead on cancer cell lines in biomorphic scaffolds. Confocal microscopy images of cancer cells at 20× magnification at 24h and day 7. Live cells were stained in green; dead cells were stained in red. White spot corresponding with biomorphic scaffold porous in brightfield. (C) Viability assay using Presto Blue ® reagent performed on explant at day 0, 6 and 10 after seeding on biomorphic scaffolds compared with explant only.

Table S1. List of primer's catalog numbers.

	GENE SYMBOL	**ASSAY CATALOG**
QIAGEN	*TP53*	PPH00213A
	BAX	PPH00078A
	PUMA	PPH02204A
	RANK	PPH01102A
	RANKL	PPH01048A
	RUNX2	PPH01897A
	ALPL	PPH01311A
	BMP2	PPH00549A
	p21	F: 5'-3' CTGGAGACTCTCAGGGTCGAAA; R: 5'-3' GATTAGGGCTTCCTCTTGGAGAA
TAQMAN	*HPRT*	Hs99999909_m1
	ACP5	Hs00356261_m1
	RANK	Hs00921372_m1
	ALPL	Hs01029144_m1
	COL1A1	Hs00164004_m1
	RUNX	Hs01047973_m1
SYBR	*HPRT*	F: 5' -AGA-CTT-TCG-TTT-CCT-TGG-TCA-GG-3'
	NFATC1	F: 5' -GCA-TCA-CAG-GGA-AGA-CCG-TGT-C-3'
	CTSK	F: 5' -GCC-AGA-CAA-CAG-ATT-TCC-ATC-3'
	GAPDH	F: 5' -ACA-TCG-CTC-AGA-CCC-ATG-3'
	RUNX2	F: 5' -TTC-ACC-TTG-ACC-ATA-ACC-GTC-3'
	BGLAP	F: 5'-CAG-CGA-GGT-AGT-GAA-GAG-AC-3'
	RANKL	F: 5'-ACT-TCT-CTG-ATG-CCT-TTT-CCT-C-3'
	ACP5	F: 5'-TGA-ATG-GAA-GGC-GGA-TGA-AC-3'